

## Claims

1. Separation hood structure for a cotton harvester having an upright receptacle with upstream and downstream walls, a harvested material delivery system propelling air, cotton and debris in a path from the upstream wall towards the downstream wall, the separation hood structure comprising a hood opening into the air delivery system and extending over the receptacle, the hood including a separation grate intercepting the propelled air, cotton and debris and facilitating removal of the air and debris from the cotton, the hood structure further including a rear deflector located above the downstream wall for intercepting the propelled cotton and remaining air and debris that is unseparated from the cotton and directing the cotton in a first direction into the receptacle, the deflector preventing build-up of harvested material on the walls.

2. The hood structure as set forth in claim 1 including an adjustable air outlet opening behind the rear deflector in a direction different from the first direction, the remaining air and debris exiting the hood away from the receptacle through the air outlet to thereby reduce air pressure and air turbulence in the receptacle, wherein momentum of cotton directs cotton into the receptacle as the remaining air and debris exit the hood.

3. The hood structure as set forth in claim 1 wherein the cotton harvester has a fore-and-aft extending frame extending a first distance rearwardly from a cab, and wherein the receptacle has a fore-and-aft dimension less than half the first distance and wherein the receptacle includes a lower cotton metering portion.

4. The hood structure as set forth in claim 1 wherein the hood structure includes a forward deflector located above the upstream wall, the forward deflector intercepting and directing cotton from the air delivery system towards the rear deflector.

5. The hood structure as set forth in claim 4 wherein the receptacle includes first and second side walls and the deflectors and grate extend between the first and second side walls.

6. Separation hood structure for a cotton harvester having an upright receptacle with opposite first and second walls joined by side walls and opening

upwardly, an air delivery system propelling air, cotton and debris in a path rearwardly from the first wall towards the second wall and between the side walls, the separation hood structure comprising a hood extending from the first wall to the second wall and opening into the air delivery system, the hood including grate structure facilitating separation of the air and debris from the cotton and away from the path, a forwardly concave rear deflector located in the path adjacent the second wall for intercepting the propelled cotton and remaining air and debris and directing the cotton in a first direction towards the receptacle, wherein the receptacle includes a sloping wall portion which diverges in a downward direction adjacent the rear deflector, the rear deflector facilitating removal of material from the sloping wall portion to prevent build-up on the sloping wall portion.

7. The hood structure as set forth in claim 6 wherein the grate structure extends horizontally from the an area above the first wall generally continuously to an area above the second wall.

8. The hood structure as set forth in claim 6 wherein the rear deflector comprises a generally solid panel curving downwardly from the grate structure.

9. The hood structure as set forth in claim 6 wherein the rear deflector has a front face intercepting the propelled air, cotton and debris and an opposite face defining an outlet wall curving upwardly away from the receptacle and an outlet opening behind the rear deflector adjacent the second wall, wherein momentum of cotton directs the cotton into the receptacle, the remaining air and debris exiting the hood away from the receptacle through the outlet to thereby reduce air pressure and air turbulence in the receptacle.

10. Separation hood structure for a cotton harvester having an upright receptacle with front and rear walls, an air duct propelling harvest material including air, cotton and debris towards the receptacle, the separation hood structure located over the receptacle and comprising an input opening into the air duct, a forward deflector located adjacent the input for directing the harvest material rearwardly in a path towards the rear wall, grate structure located above the receptacle facilitating partial separation of the air and debris from the cotton as the harvest material moves rearwardly, a rear deflector located in the path adjacent the second wall for

intercepting the propelled cotton and remaining air and debris and directing the cotton downwardly towards the receptacle, the rear deflector preventing build-up of the harvest material on the walls.

11. The hood structure as set forth in claim 10 wherein the grate structure extends horizontally from the forward deflector above the first wall generally continuously to an area above the second wall adjacent the rear deflector.

12. The hood structure as set forth in claim 10 wherein the deflector comprises a generally solid panel curving downwardly from the grate structure.

13. The hood structure as set forth in claim 10 wherein the rear deflector has a front face intercepting the propelled air, cotton and debris and an opposite face defining an outlet wall curving upwardly away from the receptacle, the hood structure further comprising an air outlet opening behind the deflector adjacent the second wall, wherein momentum of cotton directs the cotton into the receptacle, remaining air and debris exiting the hood away from the receptacle through the air outlet to thereby reduce air pressure and air turbulence in the receptacle.

14. The hood structure as set forth in claim 13 wherein the deflector includes a lower extremity around which direction of travel of the air and debris change.

15. The hood structure as set forth in claim 14 wherein the deflector is adjustable to vary area of the air outlet over a range of areas between a fully open position wherein the remaining air and debris exit the hood through the air outlet and a closed position generally preventing material from exiting through the air outlet.

16. The hood structure as set forth in claim 10 wherein the front and rear walls include a sloped portion directing cotton towards inwardly into the receptacle, the rear deflector facilitating removal of harvest material from the sloped portion to prevent build-up of the harvest material adjacent the hood structure.

17. Separation hood structure for a cotton harvester having an upright receptacle with a front wall and a rear wall connected by side walls, an air duct propelling harvest material including air, cotton and debris through a duct outlet towards the receptacle, the separation hood structure located over the receptacle and opening downwardly over the duct outlet, a forward deflector located adjacent the duct output for directing the harvest material rearwardly in a path towards the

rear wall, a rear deflector located in the path adjacent the second wall for intercepting the propelled cotton and remaining air and debris and directing the cotton downwardly towards the receptacle, grate structure located above the receptacle between the forward deflector and the rear deflector and facilitating partial separation of the air and debris from the cotton as the harvest material moves towards the rear wall, the rear deflector preventing build-up of the harvest material on the rear wall.

18. The hood structure as set forth in claim 17 wherein the second wall includes a sloped portion and wherein the rear deflector prevents the harvest material from building up on the sloped portion.

19. The hood structure as set forth in claim 17 wherein the path is generally horizontal between the forward deflector and the rear deflector.

20. The hood structure as set forth in claim 17 wherein the rear wall includes a wall portion angled forwardly in the downward direction at a location adjacent the rear deflector, the rear deflector assisting the movement of the harvest material over the angled wall portion.